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M.A.C.E. JOURNAL

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RANDOM NOISE

by Arlan Levitan

CONVENTION NEWS

MACE will sponsor TARICON I, the first national User Group Convention and Atari Computer Fair this fall. TARICON will be held in MACE's home base, Southfield, Michigan, October 21-23. Although planning has just started rolling, we already have a commitment from Atari Inc. to be represented in the display area. Looks like Synapse Software and Adventure International will be there also. The convention will feature lots of celebrity speakers and programming workshops. We need a lot of help from our members on pulling this one off! If you can help please contact Mike Lechkun, MACE corresponding secretary at (313)-978-8432. Details on attendance costs will be forthcoming.

MACE BIRTHDAY PARTY

If you can't see your way to helping on the convention, how about volunteering to participate in setting up our annual May birthday party. We need folks to help with running things and the loan of some computer equipment for the event. Call Gretchen Levitan, MACE Program Chairperson, at (313)-399-6964 to get involved. Attendance will be limited to paid-up MACE members! Make sure you bring a valid membership card with you and bring your immediate family only!

NEATNESS COUNTS

We've been having problems with people leaving cups and other garbage on the floor of the meeting room. Please stow your trash in any of the available bit buckets at the meeting and take great pains to avoid messy spills on the Center's carpeting.

MACE WEST UP

Another MACE bulletin board is up! Located in Dearborn, MACE West is SYSOPED by Larry Burdeno. The board is up pretty much 24 hours a day. Larry is primarily using his equipment for the board and is kinda new to

the BBS world, so please be patient while MACE West goes through its growing pains. Maybe the membership will vote to purchase some dedicated equipment for it (hint hint). MACE West can be reached at (313)-274-3940.

GRIPES & GRUMPS

There have been some complaints about the length of time between file changes on the main MACE BBS. I would certainly hope that everyone who has complained about the lack of new files has uploaded a new file or two themselves. In other words, how about giving as well as taking?

TROUBLE IN SUNNYVALE

ABC News recently carried a report about rumored misdeeds in the upper echelons at Atari. ABC reported that stock analysts were led to believe that Atari's fourth quarter earnings would be up by about 50%. When they were announced to be only 10 to 15% Warner stock tumbled from over fifty dollars to below thirty dollars. What's the flap about? ABC stated that they had received reports that Atari Computer Division president, Ray Kassar, dumped a lot of stock before the earnings were announced. For those of you unfamiliar with Securities and Exchange Commission regulations, it is a violation of Federal law for corporate executives to act on inside information to avoid taking a loss on stock held in one's own company. When reached for comment, the SEC would neither confirm or deny that an investigation of Atari and Warner Communications is underway. Atari seems to go through presidents faster than an arcade junkie drops a weekly allowance.

Did you know that Atari accounts for over 60% of Warner Communications earnings? They made over 260 million last year on sales of over 2 billion dollars! Now that's a lot of quarters.

ATARI WRITER

The project manager of the Atari Writer cartridge was nice enough to send me an advance copy of the new word processor. Based on my experience so far, it looks like a winner! And yes, it was definitely done by Bill Robinson, author of Text Wizard. Watch these pages in the coming months for a full review.

PUZZLE CORNER

by Charles Godfrey

The puzzle from our last issue is being held open for solutions for another month. Your puzzle master hasn't been swamped with entries so far, and there was a transposition of two letters that totally altered the January's puzzle and the logic necessary to solve it.

In the January issue, item 4 stated: All rats are full at the start of the "trail." It should have read: All rats are full at the start of the "trial."

Both puzzles will remain open for entries up to midnight before the March meeting. A certificate will be awarded for the correct answer of each version.

PUZZLE 6 Version-2

To test a group of 100 rats, a straight line 1000 feet long is marked on the ground. One end is marked "start" and the other end is marked "finish". Next, 1000 kernels of corn are placed on the line at one-foot intervals, starting one foot from the start and ending at the finish. The rats are released at the start one at a time. The rats proceed along the line according to the following rules:

1. A rat that has not eaten a kernel of corn for at least one minute is hungry, and will eat the first available kernel. A rat that has not eaten for two minutes will eat the first two kernels, and so on.
2. A hungry rat runs at one foot per second. A full rat walks at two seconds per foot.
3. It takes one second to eat a kernel of corn.
4. All rats are full at the start of the trial.
5. As soon as a rat crosses the finish, the next rat is released at the start.

PROBLEM: Exactly how long does it take for all rats to complete the course?

This puzzle is not difficult, but it must be interpreted correctly. If you do not understand a certain point, please call otherwise your answer may be programmatically correct, but still wrong (Logic hint: A rat does not become hungry while eating).

Send your solutions to:

Charles Godfrey
29646 Chelmsford
Southfield, MI 48076
559-1272

IS THERE AN ATARI CAMP IN OUR FUTURE?

by Steve Cooper

Here's another "good-news/bad-news" routine relating to day camp and overnight camp for differing age groups.

GOOD NEWS: "Atari Computer Camps, Inc." runs seven camps nationwide; three in the East, three in California and one in the Midwest. You might think that the Midwest camp might be located near the largest Atari User Group in the country (that's us) but you'd be wrong. If you guessed Faribault, Minnesota you'd be correct. The camp provides computer instruction, meals, lodging, a nine-hole golf course, indoor pool, indoor tennis, water skiing, canoeing, air conditioning and other activities associated with upscale demographic camping (don't expect filthy things like bears, tents, and beans over a campfire - that stuff is passe' for modern computer-sapiens).

For more information on Atari camps for ages 10 through 16, call toll free 1-(800)-847-4180 and give your address carefully (the info they sent me was addressed to "Southfield, New Jersey". Fortunately, the zip code was correct).

BAD NEWS: All this can be yours for \$890 for 2 weeks; \$1,690 for 4; \$2950 for 2 months. (Transportation and golf (caddy fees, et cetera) not included.)

GOOD NEWS: People in the MACE area are interested in a computer camp experience. Maybe Atari is interested in us?

BAD NEWS: A one sentence response was received from Atari Camps Inc. indicating no interest in our area.

GOOD NEWS: Members of MACE don't give up that easily. Creating our own Atari Computer Day Camp in Southeastern Michigan was discussed at the Education SIG and there seems to be some interest in giving it a go. If there's enough interest the talents and enthusiasm of MACE members should carry the day.

If you are interested in getting involved or being kept advised on what may be planned, call Steve Cooper at (313)-352-8090 and leave your name and address. We'll set up a meeting and see what results.



PRODUCT UPDATE

ATARI HOME COMPUTER SYSTEM

ATARI® BASIC Reference Manual Update

This product update contains a number of corrections and additions to the *ATARI BASIC Reference Manual*.

Page 1. This definition is missing from the **TERMINOLOGY** list:

Page 6. This information pertains to the **ARITHMETIC OPERATORS** subtraction and exponentiation:

Page 7. This Note regards the use of the **LOGICAL OPERATORS**:

Page 13. This Note is in reference to **SCREEN EDITING**:

Page 20. This Note regards **ON/GOSUB** statements:

Page 22. Further information on **RESTORE (RES.)**:

Page 25. Some additional information on using the **INPUT (I.)** statement:

Floating Point Number: A number containing an integer part, a decimal point, and a fractional part. The total number of significant digits in a floating point number, excluding the exponent, may be either nine or ten. This depends on whether the exponent is an even or odd multiple of 10.

Note: Avoid negating zero, as this will produce an invalid number. For example, if you type

```
PRINT -0
the result will be
-0E- <8
```

Note: Since the algorithm used to generate exponents (\wedge) is only an approximation, you cannot obtain integer results with it—for example, $2 \wedge 2 = 3.99999996$. To correct this, use the following technique:

```
X = 2 ^ 2
PRINT INT (X + .5)
4
```

Note: Avoid using the statement **PRINT A=NOT B**, as the results are not predictable. Essentially, any **PRINT** statement with a **NOT** operator will be unpredictable.

Note: Large amounts of editing may lock up the system. It's recommended that programs under development be stored to cassette or diskette periodically (every 30 or 40 edits) with the **SAVE** or **CSAVE** command.

Note: If an **ON/GOSUB** expression evaluates to a number greater than the number of subroutine entries, then a **POP** statement will be necessary to clear the stack (see **POP** command, Section 4).

The **RESTORE** statement will not generate an error if the line number referenced does not exist. Instead it will **RESTORE** to the next larger line number in the program. Care should be taken to update **RESTORE** statements when renumbering a **BASIC** program.

When executing an **INPUT** from the screen, avoid moving the cursor away from and then back to the same line; otherwise, the wrong data may be input. Specifically, the **INPUT** prompt will be included in the **INPUT** string.

If a string of 128-255 characters is **INPUT**, then RAM locations 1536-1664 will be overwritten. This area is normally reserved for storage of programs or data. (See the *ATARI Tech Reference Notes*.)

To **INPUT** strings of more than 127 characters, use the **GET** command and store the values into a string (see Section 5, **OPEN/CLOSE** and **PUT/GET** commands).

Note: The maximum number of characters that can be **INPUT** from the screen is 120. The maximum for other devices is 255.

Note: Make sure that every **INPUT** statement has a variable after it; otherwise, unpredictable results may occur.



Page 26. This regards the use of the **LOAD (LO.)** command:

This Note should follow the **LPRINT (LP.)** command description:

Page 27. This information pertains to the file-spec definition:

Page 28. This is an addition to the **POINT (P.)** section:

In the last paragraph under **PRINT (PR. or ?)**, the first sentence should read:

The following sentence should conclude the final paragraph on **PRINT (PR. or ?)**:

This note should then conclude this section on **PRINT (PR. or ?)**:

This Note regards the **PUT (PU.)/GET (GE.)** section:

Page 30. Here is a corrected version of the table—note in particular the correction on cmdno 32:

Note: If a program is loaded that is too large for the available memory space, it may give unpredictable results without an error message.

Note: An **LPRINT** command with a semicolon at the end will cause the following **LPRINT** statement to print on the next 40-column tab. A 40-column printer will move to the next line in such a case. To use the semicolon effectively, use the **OPEN** statement for the printer, then write to the printer with a **PRINT** statement (see **OPEN/CLOSE** and **PRINT** commands, Section 5).

Note: Be sure to include the closing quotation marks on a filespec parameter, especially when putting multiple statements on one line. For example,

```
OPEN #1, 4, 0, "D:TEST":STOP
will work, but
OPEN #1, 4, 0, "D:TEST:STOP
will not function correctly.
```

Note: To update a file, you must open it with a 12 in **aexpl**.

A comma tabs every 10 spaces.

However, if the last character to be printed (as in a string with quotation marks) is a **CTRL R** or **CTRL U**, then the next **PRINT** will begin at the end of the current line.

Note: In rare circumstances data printed to a diskette may have part of the BASIC program embedded in it. If this occurs, retry the operation.

Note: In certain circumstances the **GET** function may modify other variables within the program. To avoid this, **PRINT** any number to the screen between each **GET**.

cmdno	OPERATION	EXAMPLE
3	OPEN	Same as BASIC OPEN
12	CLOSE	Same as BASIC CLOSE
13	STATUS REQUEST	Same as BASIC STATUS
17	DRAW LINE	Same as BASIC DRAWTO
18	FILL	See Section 9
32	RENAME	XIO 32,#1,0,0,"D:TEMP,CAROL"
33	DELETE	XIO 33,#1,0,0,"D:TEMP.BAS"
35	LOCK FILE	XIO 35,#1,0,0,"D:TEMP.BAS"
36	UNLOCK FILE	XIO 36,#1,0,0,"D:TEMP.BAS"
37	POINT	XIO 37,#1,A,B
38	NOTE	XIO 38,#1,X,Y
254	FORMAT	XIO 254,#1,0,0,"D2:"

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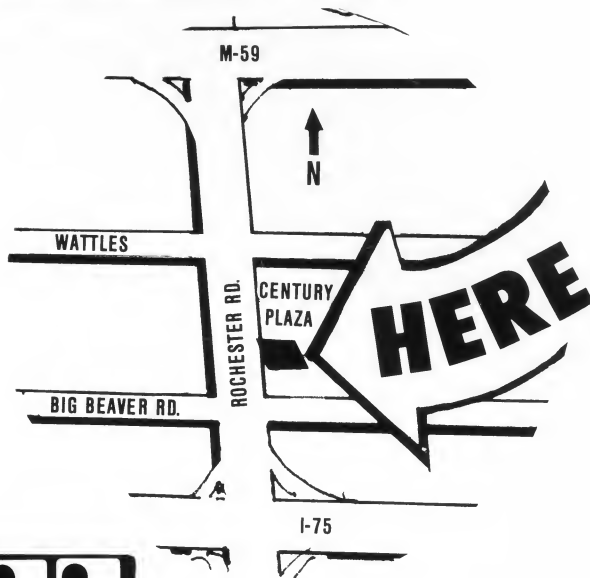
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Page 33. The last sentence in the paragraph about the **CLOG** function should read:

Page 34. The last sentence in the paragraph about the **LOG** function should read:

Page 38. The last line in the first paragraph should read:

Page 39. The first sentence should read:

In the second paragraph, the last line should read:

This is additional information on the **VAL** function:

This information pertains to **String Concatenation**:

In **Figure 7-6**, the correct result of the program on the left is:

Page 42. Some additional information on using the **DIM (DI.)** statement:

Page 43. This is an additional Note for the **DIM (DI.)** section:

Additional information on using the **CLR** command:

CLOG(0) through **CLOG(1)** are inaccurate and should not be used.

LOG(0) through **LOG(1)** are inaccurate and should not be used.

was stored there previously.

Upon execution, the screen displays THE SQUARE ROOT OF 10000 IS 100.

number 1000000000.

Only the numeric field will be translated, while the text will be ignored. For example:

`VAL("5SUM")=5`

Note: BASIC cannot move strings of 256-character multiples correctly. String lengths should be checked; if any string contains a multiple of 256 characters, add or subtract one character from the amount to be moved.

BCD#

Make sure that the **DIM** statement does not contain a space between the string or array name and the left parenthesis of the dimensioned amount; otherwise, the following will happen—

`DIM L (10)` becomes `DIM L10`

—and this variable can no longer be referenced.

Note: The command **COM** is identical to **DIM** and may be used in its place.

Note: Due to a discrepancy in boundary checking, arrays of up to 32766 by 32766 in size can be dimensioned. The programmer should size the array ahead of time to ensure that there is no "virtual" storage space.

The second sentence in the last paragraph, beginning "It also clears ...," should be deleted.

The **CLR** command will not initialize the values in strings and arrays.



Page 45. Here is a corrected version of TABLE 9.1:

TABLE 9.1—TABLE OF MODES AND SCREEN FORMATS

Gr. Mode	Mode Type	Horiz. (Columns)	SCREEN FORMAT		Number Of Color Registers	Split Screen	RAM Required (Bytes) Full Screen
			Vert. (Rows) Split Screen	Vert. (Rows) Full Screen			
0	TEXT	40	—	24	1½	—	992
1	TEXT	20	20	24	5	674	672
2	TEXT	20	10	12	5	424	420
3	GRAPHICS	40	20	24	4	434	432
4	GRAPHICS	80	40	48	2	694	696
5	GRAPHICS	80	40	48	4	1174	1176
6	GRAPHICS	160	80	96	2	2174	2184
7	GRAPHICS	160	80	96	4	4190	4200
8	GRAPHICS	320	160	192	1½	8112	8138

Page 49. The last sentence under PLOT (PL.) should read:

"The range of points begins at 0 and extends...."

Page 50.

In TABLE 9.3, the color PURPLE should be inserted after PINK in the first column, and the number 5 should be inserted after 4 in the second column.

Page 51. The sentence directly under TABLE 9.4 should read:

"DEFAULT" occurs if no SETCOLOR statement is used.

Page 53. Here is a corrected version of TABLE 9.5:

MODE, SETCOLOR, COLOR TABLE

Default Colors	Mode or Condition	SETCOLOR (aexp1) Color Register No.		Color (aexp)	DESCRIPTION AND COMMENTS
LIGHT BLUE	Mode 0 and all text windows	0		Color data	—
		1		actually determines	Character luminance
DARK BLUE		2		character to	(same color as background)
		3		be printed.	Background
BLACK	Modes 1 and 2 (text modes)	4		—	—
ORANGE		0		Color data	Character
LIGHT GREEN		1		actually determines	Character
DARK BLUE		2		character to be printed.	Character
RED		3		—	Character
BLACK		4		—	Background, border
ORANGE	Modes 3, 5, and 7 (four-color modes)	0		1	Graphics point
LIGHT GREEN		1		2	Graphics point
DARK BLUE		2		3	Graphics point
		—		—	—
BLACK	Modes 4 and 6 (two-color modes)	4		0	Graphics point (background default), border
ORANGE		0		1	Graphics point
		—		—	—
		—		—	—
BLACK	Mode 8 (1 color, 2 luminances)	—		—	—
		4		0	Graphics point (background default), border
		—		—	—
		—		—	—
LIGHT BLUE		1		1	Graphics point luminance (same color as background)
DARK BLUE		2		0	Graphics point (background default)
		—		—	—
BLACK		4		—	Border



Page 54. In *Figure 9-4*, line 80 should read:

Page 55. This information pertains to **TABLE 9.6:**

Page 56. Here is a corrected version of **TABLE 9.7:**

Page 58. The last paragraph should read as follows:

In **TABLE 10.1:**

Page 63. The last line in item 9 should read:

Page 67. In *Figure 11-2*, line 0260 under Data should be:

Page E-1.

Page H-7. Line 160 in the program should read:

Page H-8. Line 50 in the program should read:

Page 117.

Page 118.

Page 119.

80 XIO 18, #6, 12, 0, "S:"

In Column 1, # 14, a period, not a bar, shows on the screen.

In Column 3, #'s 92-95 should show a superscripted circled 1 next to their characters.

TABLE 9.7—CHARACTER/COLOR ASSIGNMENT

		Column 1 Conversion	Column 2 Conversion	Column 3 Conversion	Column 4 Conversion
MODE 0	² SETCOLOR 2	#+32	#+32	#-64	NONE
		POKE 756,224		POKE 756,226	
MODE 1	SETCOLOR 0	#+32	#+32	#-32	#-32
OR	SETCOLOR 1	NONE	#+64	#-64	NONE
MODE 2	SETCOLOR 2	#+160	#+160	#+96	#-96
	SETCOLOR 3	#+128	#+192	#+64	#+128

² Luminance controlled by SETCOLOR 1, 0, LUM.

Note that the DATA statement in line 90 ends with 256, which is outside of the designated range. The 256 is.....

The PITCH VALUE of 193 should have a musical note of "E," not "D."

precedence will save a few bytes.

#2

The right parentheses are missing after the word "CONSTANT" in Atari Functions of Inverse Cosine, Inverse Secant, and Inverse Cosecant.

160 IF K=125 OR K=155 THEN 180

50 PLOT 0,0:DRAWTO 159, DR

Following COM, "{(see DIM)" should be deleted and replaced with "A-1."

Under "Input/Output Devices," Line Printer should be followed by "(P:)," not "(L:)."

"NOTE, 26" is missing from the listing.



Page 120.

INSIDE BACK COVER

here is the corrected table:

"STATUS, 29" is missing from the sublisting under "Statement" and also from the regular listing.

MODE, SETCOLOR, COLOR TABLE

Default Colors	Mode or Condition	SETCOLOR (aexp1) Color Register No.	Color (aexp)	DESCRIPTION AND COMMENTS
		0	Color data	—
LIGHT BLUE	Mode 0 and all text windows	1	actually determines	Character luminance (same color as background)
DARK BLUE		2	character to be printed.	Background
		3		—
BLACK		4		Border
ORANGE	Modes 1 and 2 (text modes)	0	Color data	Character
LIGHT GREEN		1	actually determines	Character
DARK BLUE		2	character to be printed.	Character
RED		3		Character
BLACK		4		Background, border
ORANGE	Modes 3, 5, and 7 (four-color modes)	0	1	Graphics point
LIGHT GREEN		1	2	Graphics point
DARK BLUE		2	3	Graphics point
		—	—	—
BLACK		4	0	Graphics point (background default), border
ORANGE	Modes 4 and 6 (two-color modes)	0	1	Graphics point
		—	—	—
		—	—	—
		—	—	—
BLACK		4	0	Graphics point (background default), border
LIGHT BLUE	Mode 8 (1 color, 2 luminances)	—	—	—
		1	1	Graphics point luminance (same color as background)
DARK BLUE		2	0	Graphics point (background default)
		—	—	—
BLACK		4	—	Border

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BAKER STREET BYTES

BEGINING A PROGRAM

By RICHARD GIZYNSKI

Many beginning programmers have their first programming experience trying out a newly purchased machine. They start by copying short routines from an instruction manual. Next comes experiments in putting a few BASIC commands together on their own. Frustration grows as new programmers run out of uses for the commands they have learned. If this sounds familiar, this article is written for you.

If you suddenly moved to a country with a different language, you would learn words with the most important meanings first. Computer equivalents might be: PRINT - "Talk to me"; CLOAD - "Listen to these instructions"; RUN - "Do it to it". As you expand your BASIC vocabulary, keep in mind that, like any stranger to a new language, you don't have to learn all the uses of a word to start communicating.

You can save yourself a lot of frustration by taking a few minutes to write, in English, what you want the computer to do. This clarifies your thoughts and helps you to tackle larger programs. Programming a computer is like giving instructions to an obedient idiot. The computer will try to do what you tell it, in the order you tell it to follow. If you can't tell yourself what you want done, you won't be able to tell the computer.

I start a program by writing something like "An easy way to keep my checkbook balanced" or "A way to keep phone numbers" as starting ideas. Next I add details to the ideas. "Add new names and numbers," "retrieve stored names and numbers," and "alphabetize by name" are examples of expanding a program description. After noting all the features I want, I weed out the ridiculous ones and just keep those that range in difficulty from easy to nearly impossible.

Complicated tasks are made a lot easier by breaking them into small pieces. After I have a working description of what I want the program to do, I begin to organize the steps I need to get the job done. This is called flow

charting. In ordinary English terms, I make block diagrams of what steps are needed. For Telephone Directory, "Input name", "Input phone number" and "add new name and number to the a list of names in memory" might form my first block diagrams. This makes it easy to see what I am going to ask the computer to do.

At this point, I start looking at more detailed features needed in the program. Under "Input new info" I might put "Check to see if input was a name or a code telling the program to go to another routine." "Make sure that the name and number are flush left and right on the screen" might be added to "Printing routine".

So far I haven't written any program code but I do have a clearer picture of what I am going to ask the computer to do. I can spot groups of repeated steps that might be put into subroutines and "bugs" in my logic BEFORE I actually try to write the program.

After I finish the flow chart I start writing the program itself. Following the flow chart plan, I give variables names that relate to their function. PLAYERNAME\$ is easier to trace through a program than P\$. REMark statements head up each area of the new program. Six months from now I want to be able to look at the program and quickly find out what I was doing.

With a detailed flow chart, writing the code is almost easy. If you don't know how to do a particular operation, you at least know what to look or ask for. The Atari Basic manual has examples of how many command words can be used. You can find other command examples in programs written here in MACE or in magazines and books available at your nearest computer store or at your library.

The most important point in beginning a program is to describe what you want the program to do. Start with the main purpose and then add features to it. Next, start a rough outline of how the computer will do the job. Then break down each rough outline step into smaller, more detailed steps. As you clarify your thoughts you will find the program getting much easier to understand and write.

DRAWING WITH PILOT

By T. P. Sturza

My son and I enjoy programming in Pilot and we've spent many hours trying the examples found in Atari's Student Pilot:Reference Guide or David Thornburg's book, Picture This. After one such session on the computer, he asked if Pilot could use a joystick to draw pictures. The program that follows this article is my answer to his question.

A few problems had to be overcome to accomplish my task. The most important was how to tell if the joystick had been moved (and later, if the trigger button had been depressed). I found the memory locations for the joystick in the publication, De Re Atari. In Pilot, these locations are @632 and @644, respectively.

By using immediate mode instructions, T:@632 and T:@644, and a joystick in joyport #1, I soon had numeric values for each move or trigger use. After choosing the numeric variable #S to represent the joystick, I subtracted 3840 (line 60) to obtain values that matched the basic language values for STICK(0)=?. I then subtracted 256 from the value in @644 (line 700) to get a zero or a one. Zero would indicate that the trigger button had been depressed.

Early versions of my program allowed the line being drawn to go off the screen. I decided to incorporate limits for the X and Y coordinates to prevent this from happening (example, lines 500-510). I later added a menu to the program, allowing for additional colors and features.

The current version of my program allows for drawing in three colors, erasing, screen clearing and a current location indicator if you get lost in "PEN UP" or "PEN ERASE" modes. I've also made an attempt to use Pilot terminology whenever possible.

Lines 10-30	Initialization
Lines 40-660	Joystick movement verification and drawing instructions
Lines 670-720	Trigger depressed check
Lines 730-1360	Menu and color/option change routines

NOTE: Lines 749, 1029, 1069, 1109, 1149, 1189, 1219 and 1269 should not be entered as program code. They are comments for keying the lines following them. Lines 740, 800 and 1260 are: T:ESC, CTRL+CLEAR. Program requires the Pilot language cartridge and one joystick.

```
10 R: DRAW WITH JOYSTICK
20 GR: CLEAR
30 U: *CHANGE
40 *LOOP
50 R: CHECK FOR JOYSTICK MOVEMENT
60 C: #S=@632-3840
70 J(#S=7): *S7
80 J(#S=13): *S13
90 J(#S=11): *S11
100 J(#S=14): *S14
110 J(#S=6): *S6
120 J(#S=5): *S5
130 J(#S=9): *S9
140 J(#S=10): *S10
150 J: *CONTINUE
160 R: #S=7 OR TURNT0 90 DEGREES
170 *S7
180 GR: TURNT0 90
190 J(%X=79): *CONTINUE
200 GR: DRAW 1
210 J: *CONTINUE
220 R: #S=13 OR TURNT0 180 DEGREES
230 *S13
240 GR: TURNT0 180
250 J(%Y=-31): *CONTINUE
260 GR: DRAW 1
270 J: *CONTINUE
280 R: #S=11 OR TURNT0 270 DEGREES
290 *S11
300 GR: TURNT0 270
310 J(%X=-79): *CONTINUE
320 GR: DRAW 1
330 J: *CONTINUE
340 R: #S=14 OR TURNT0 0 DEGREES
350 *S14
360 GR: TURNT0 0
370 J(%Y=47): *CONTINUE
380 GR: DRAW 1
390 J: *CONTINUE
400 R: #S=6 OR TURNT0 45 DEGREES
410 *S6
420 GR: TURNT0 45
430 J(%Y=47): *CONTINUE
440 J(%X=79): *CONTINUE
450 GR: DRAW 1
460 J: *CONTINUE
470 R: #S=5 OR TURNT0 135 DEGREES
480 *S5
490 GR: TURNT0 135
500 J(%Y=-31): *CONTINUE
```

```

510 J(%X=79):*CONTINUE
520 GR:DRAW 1
530 J:*CONTINUE
540 R: #S=9 OR TURNT0 225 DEGREES
550 *S9
560 GR:TURNT0 225
570 J(%Y=-31):*CONTINUE
580 J(%X=-79):*CONTINUE
590 GR:DRAW 1
600 J:*CONTINUE
610 R: #S=10 OR TURNT0 -45 DEGREES
620 *S10
630 GR:TURNT0 -45
640 J(%Y=47):*CONTINUE
650 J(%X=-79):*CONTINUE
660 GR:DRAW 1
670 R: CONTINUE WITH PROGRAM
680 R: CHECK IF TRIGGER WAS
DEPRESSED
690 *CONTINUE
700 C:#T=@644-256
710 U(#T=0):*CHANGE
720 J:*LOOP
730 *CHANGE
740 T:}
749 R:LINE 750 IS IN INVERSE VIDEO,
INCLUDING BLANKS
750 T: CHOOSE PEN COLOR - OR OTHER
OPTION
760 T:B=BLUE, Y=YELLOW, R=RED
770 T:U=PEN UP, E=ERASE, C=CLEAR
SCREEN
780 T:L=CURRENT LOCATION  ?\
790 A:
800 T:}
810 M:U
820 JY:*UP
830 M:L
840 JY:*LOCATE
850 M:R
860 JY:*RED
870 M:Y
880 JY:*YELLOW
890 M:B
900 JY:*BLUE
910 M:E
920 JY:*ERASE
930 M:C
940 JY:*CLEAR
950 J:*CHANGE
960 *CLEAR
970 GR:CLEAR
980 GR:GOTO 0,0
990 GR:TURNT0 0
1000 J:*CHANGE
1010 *UP
1020 GR:PEN UP
1029 R:IN LINE 1030, " PEN UP " IS IN
INVERSE VIDEO

```

```

1030 T: PEN UP SELECTED
1040 J:*EXIT
1050 *RED
1060 GR:PEN RED
1069 R:IN LINE 1070, " PEN RED " IS IN
INVERSE VIDEO
1070 T: PEN RED SELECTED
1080 J:*EXIT
1090 *YELLOW
1100 GR:PEN YELLOW
1109 R:IN LINE 1110, " PEN YELLOW " IS
IN INVERSE VIDEO
1110 T: PEN YELLOW SELECTED
1120 J:*EXIT
1130 *BLUE
1140 GR:PEN BLUE
1149 R:IN LINE 1150, " PEN BLUE " IS IN
INVERSE VIDEO
1150 T: PEN BLUE SELECTED
1160 J:*EXIT
1170 *ERASE
1180 GR:PEN ERASE
1189 R:IN LINE 1190, " PEN ERASE " IS
IN INVERSE VIDEO
1190 T: PEN ERASE SELECTED
1200 *EXIT
1210 T:
1219 R:IN LINE 1220, " TRIGGER
BUTTON " IS IN INVERSE VIDEO
1220 T:PRESS TRIGGER BUTTON FOR
MENU
1230 E:
1240 *LOCATE
1250 C:#L=1
1260 T:}
1269 R:IN LINE 1270, " CURRENT
LOCATION " IS IN INVERSE VIDEO
1270 T: CURRENT LOCATION IS %X, %Y
1280 *AGAIN
1290 GR:PEN YELLOW
1300 GR:GOTO %X,%Y
1310 PA:45
1320 GR:PEN ERASE
1330 GR:GOTO %X,%Y
1340 C:#L=#L+1
1350 J(#L<10):*AGAIN
1360 J:*CHANGE

```

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Mace unclassifieds are run at no charge to members. Ads must be short and non-commercial in nature. Please send your ads to MACE Unclassifieds, Dept CL, PO Box 2785, Southfield, Mi 48037. Include your membership #. All software offered for sale MUST be originals.

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Wanted: Good used Atari 810 disk drive. Call or write: Bob Lehmacher, 6260 W. 85th, Burbank, IL - (312)-599-9506

For Sale: Santa Cruz Tricky Tutorials, Display lists, Scrolling, Page Flipping, Animation: \$5 each. Atari SCRAM: \$7. Space Invaders (tape): \$5. Graph-It (2 tape set): \$9. Invitation to Programming Vols. 2 & 3 (two cassette sets): \$9 each. All originals with all manuals intact. Howard Rabotnick (313)-557-8652

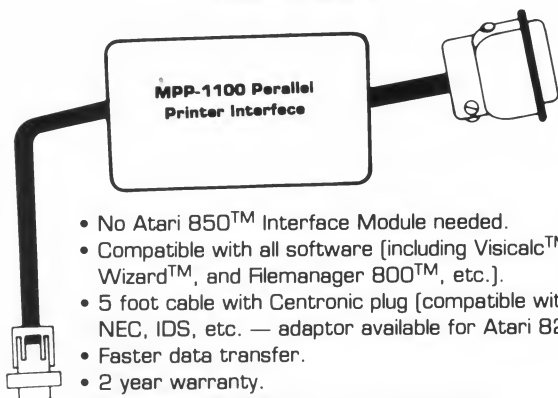
Wanted: Used 410 recorder or 810 disk drive. Mike Evans (519)-542-8972

For Sale: Realistic DX-300 digital short-wave receiver. Can be interfaced to Atari computers for TTY reception using Kantronics or similar interface: \$175 - (313)-399-6964.

(Editor's note: I lost one or two unclassifieds in the mess on the paste-up desk. If your classified didn't run this month, please re-submit it. My sincere apologies to those I have slighted.)

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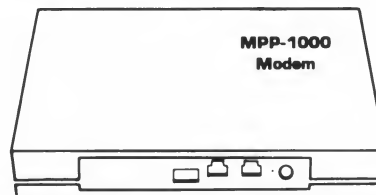
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ASSEMBLER SIG NOTES

By Phil Heavin
Secretary, SIGASM

January Meeting

At our January meeting, Dave Brown presented a description of some of the features of DISKED. Of special interest to SIGASM is the ability to disassemble from disk, keeping track of the memory addresses of the code being disassembled.

Next was one of the best sessions yet for SIGASM. Tom Hunt presented a method of animating missiles that travel at an angle, such as those in Asteroids. Tom described how to calculate the movement, compensating for the aspect ratio of a TV and the differing angles so that the speed appears the same for all angles. Next he described the implementation, in assembly language, of this motion. It was a very interested group that stayed well beyond our normal quitting time to finish this session.

March's Meeting

March's meeting will be Thursday, the 4th at my house in Sterling Heights. You can contact me at 939-6213. The meeting will begin at 7:00 with socializing and free form discussion with the actual business portion starting at 7:30. We hope to see you there.

EDUCATION SIG MEETING NOTES

At our January meeting, we looked at several interesting programs. SPELLING GENIE by Disaroon (APX) is a sharp spelling game with 4 variations. Of course you may add your own words. This program received an "A" grade. MATH TIC-TAC-TOE by Craine (APX) was fun to play, combining math with strategy. It had 1 major flaw that should be noted. This program requires that the answers be entered from left to right. Math problems should be answered LEFT TO RIGHT (carrying and borrowing). A special thank-you to Rite-Way (Warren) for loaning us these programs.

Our group would like to have a booth at the MACUL convention on March 14-15 at the Hyatt Regency in Dearborn. MACUL expects to have over 2000 teachers at the conference who are using computers in their classrooms. Please call (774-9709) for more info or if you would be willing to man our booth for a couple of hours.

Mark Davids
21825 O'Connor
St. Clair Shores, MI 48080

COMPUTE'S FIRST BOOK OF ATARI GRAPHICS

Review by Mark Davids

This spiral bound booklet contains 28 separate articles (250 pp) on GRAPHICS. Most of the material has appeared in COMPUTE in the past 18 months, but some of the material is new. The book contains the following chapters: 1. Fundamentals, 2. Customizing Graphics modes, 3. Redefining Character Sets, 4. Animation, 5. Animation with Player-Missiles, 6. Advanced Techniques

The book seems to be written for the intermediate ATARIAN, but beginners will certainly enjoy watching the demos. The book is crammed full of interesting facts about ATARI graphics, neat demos, and USEFUL SUBROUTINES (Player-Missile vertical motion, vertical blank routines, etc.). Craig Chamberlin's Article(s) on the GTIA (see MACE March '82) is included with several demos.

My personal favorite is TEXTPLOT by Charles Brannon. This routine allows you to plot text on the graphics screens at ASSEMBLY SPEED. You can now put capital and lower case letters and control characters (in regular or inverse) in 4 colors on a graphics 7 screen.

Even if you subscribe to COMPUTE, this is an excellent buy at \$12.95. If you don't get COMPUTE, this book is a must.

BUILD YOUR OWN ATARI PADDLES

By Marshall S. Dubin

For a few dollars in parts and a little bit of your time, you can build a decent set of paddle controllers for use with your Atari personal computer.

Actually, paddles aren't all that complicated. They consist of a potentiometer (like a volume control) and a push button switch. Two identical paddle units are combined to plug into a single controller jack on the front panel of your Atari. All together, the computer can accomodate up to eight different paddles at the same time.

Paddles work by supplying a voltage to certain pins on the front panel controller jacks. This voltage passes through the pot, and thus will vary when the pot is turned. The output - this variable voltage, is then fed into one of two pins on the front panel (pins 5 and 9). These are the paddle input pins. Your computer will read the voltage at these pins and convert it to a digital number between 0 and 228. The process is called analog to digital conversion. The variable voltage (0-5V) is the analog signal, and is converted to digital internally by the Atari.

The paddle trigger is connected to either pin 3 or 4 of the front panel jacks. When pressing the trigger button, you are essentially making a connection between one of the trigger pins and ground. The effect is referred to as "pulling the trigger pins low", ie. logic 0. Figure 1 shows a diagram of the pin connections for any of the front panel controller jacks. For practical purposes, you can consider all four jack as being wired the same (at least for our application), and thus the paddles that you build will work equally as well in any one of the ports.

As I mentioned before, a set of paddles consists of two individual paddles, connected to a single connector plug. Each individual paddle uses one of the two analog and one of the two trigger pins. So for example, paddle 1 will use analog pin 9 and trigger pin 3, and paddle 2 will use analog pin 5 and trigger pin 4 of the same controller port. The chart in figure 2 explains the connection arrangements of the two paddle units.

Construction Details

To build a single set of paddles, you will need the following parts:

- 2 - 1 megohm linear taper potentiometers
- 2 - single pole, normally open push button momentary switches
- 1 - DB9 connector to mate with the front panel jacks (available from APX or many computer dealers)
- 2 - 5 foot lengths of 4 conductor cable
- 2 - small plastic "mini-boxes" or similar housing for the paddle units
- Misc. - solder and small hardware

When selecting a switch, try to pick one which is comfortable to use, easy to mount, and doesn't have a return spring with the play of those used to catapult F-16's from the deck of an aircraft carrier. Likewise, when selecting the pot, try to find a knob that will be easy to grip and control. I recommend the knobs found on many garden variety light dimmers of the kind that replace standard wall switches. Just mount the knob from one of those on your pot.

As for the actual construction details, follow the connection chart in figure 3. Note that pin 8 (ground) and pin 7 (+5 volts) will have two wires connected to them. These pins handle the input to both pots (pin 7) and to both switches (pin 8). The other pins (5,9,3,4) each go to their separate paddle units and will only have one wire connected to each. Remember that both separate paddles are joined at the plug. Try to keep your connections as small as possible, making sure that you do not short any of the wires against any other pins except the ones that they should be connected to.

Incidentally, when wiring the pots, note that each pot has three connection lugs. With the shaft facing you, the left hand lug is the INPUT lug, the center one is the CT, and there is no connection to the right hand lug.

Enclose your finished paddles in the two mini-boxes or similar housing. Check all wiring over very carefully before plugging the controllers into the computer. When you are satisfied that all is well, plug the controllers into port 1 and complete the check out in the next section.

Paddle Check-Out

1. Boot up BASIC and enter and RUN the following program:

```
10 X=PADDLE(0);Y=PADDLE(1)
20 PRINT X,Y;GOTO 10
```

2. While the program is running, turn the paddle knob. You should see values being returned between 0 and 228. Note that there are variations between different pots, so you might not get the full 228 range. If you used the 1 megohm linear taper pots, you should be close though. Do the test for both paddles.

3. When you are satisfied that all is well, enter and RUN this:

```
10 X=PTRIG(0);Y=PTRIG(1)
20 PRINT X,Y;GOTO 10
```

X and Y will be 1 unless you press the trigger. Then they should be 0. If not, check your connections.

4. You can check the pins individually by using the following locations:

```
PADDLE(0) - pin 9....PEEK(624)
PADDLE(1) - pin 5....PEEK(625)
```

PEEKing these locations should give you back a number between 0 and 228 as you turn the pots.

```
PTRIG(0) - pin 3....PEEK(636)
PTRIG(1) - pin 4....PEEK(637)
```

PEEKing these will give you back a 0 or a 1 depending on the trigger switch pushed. A 0 means pushed.

Well, that should do it. You can use these paddles in any one of the four controller ports as you would any commercial paddles. Just change your BASIC key words accordingly from PADDLE(0) and PADDLE(1) to PADDLE(x) depending on the port. Now get to it, and PADDLE your way to some new high scores!

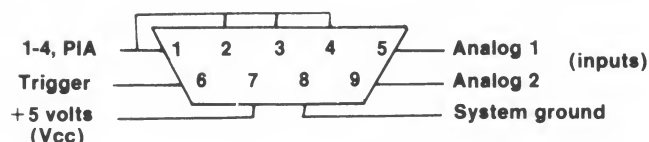


Figure 1: Pin Connections

PADDLE(x)	Function	Pins	Jack
PADDLE(0)	TRIGGER	3,8	1
	POT	7,9	
PADDLE(1)	TRIGGER	4,8	1
	POT	7,5	
PADDLE(2)	TRIGGER	3,8	2
	POT	7,9	
PADDLE(3)	TRIGGER	4,8	2
	POT	7,5	
PADDLE(4)	TRIGGER	3,8	3
	POT	7,9	
PADDLE(5)	TRIGGER	4,8	3
	POT	7,5	
PADDLE(6)	TRIGGER	3,8	4
	POT	7,9	
PADDLE(7)	TRIGGER	4,8	4
	POT	7,5	

Pin	Function
1	Joystick
2	Joystick
3	Joystick/PTRIG(0)
4	Joystick/PTRIG(1)
5	PADDLE(1) POT
6	Joystick trigger/light pen
7	+5 volts DC
8	Ground
9	PADDLE(0) POT

Figure 2, Paddle/pin Connections
Connections assume jack is facing you.

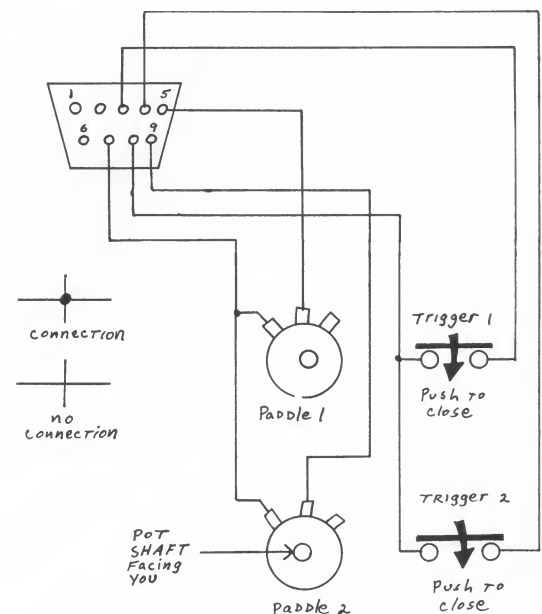


Figure 2: Connection Diagram

The
XMODEM, AMODEM, CP/M Saga
compiled & written by
Greg Leslie

There is a lot of confusion about these three terms lately, and I figured it was time for a set of explanations for Joe Hobbyist -- folks like you and me who flinch at the term "S-100".

I myself have only been into it for a very short time, and some of this may not be completely accurate. Those of you who DO know what it's all about, please let me know so I don't start any really bad misunderstandings.

First, there was CP/M. It was nothing more than a computer operating system, but it had SPARK. Someone found out it was a versatile system for communications. So CP/M (or RCP/M) BBS's were born.

A CP/M BBS is different from mine because, instead of choosing menu items from the remote computer, you RUN the remote computer by typing CP/M commands to it. The MINIRBBS in the CP/M system is no more than the filename of a CP/M program that handles messages and stuff, and you LOAD and RUN it by remote control, just by typing MINIRBBS.

For Up and Downloading, RCP/M systems are ideal. In my BBS, you receive LISTed format programs. They must be ENTERED back from the disk and then SAVED. You can UL(upload) and DL(download) only simple stuff. An RCP/M system can handle ANYTHING. Not just LISTed programs, but SAVED (tokenized) programs, machine language, MUSIC files (for Music Composer and soon for Advanced MC), binary load files, text -- you get the idea. What's more, it transfers it without any garbage from the system. No more ERROR lines of menus and "Hit RETURN to begin". Also, the system checks each sector. If there's a problem, it tries ten times to resend that one sector. All you do is sit back and feel smug. It's even saved to disk for you.

If you're not frothing at the mouth yet, start working some froth up because it's EASY to do, using the Mystery Word 2 -- AMODEM4.

AMODEM is a program written by Jim Steinbrecher of M.A.C.E. It is a terminal program, just like TELELINK or JONESTERM, and it lets the Atari communicate easily with CP/M systems.

Let's call an imaginary CPM system using AMODEM.

After booting in the 850 interface and loading up the program, RUN it. You'll see an intro page, and in about 5 seconds, the screen will get darker blue and it will read *** TERMINAL MODE ***. Now call the BBS number.

Hook in just like any other BBS. Before the remote system kicks in, you may have to hit a couple of <RETURN>s. If it asks you for a null count, give it a "0". It should then log you into the BBS. If the screen formatting looks strange, keep in mind you're dealing with an 80-column standard here. On the BBS you can read and send messages, just like any other BBS. Type a "?" to get a menu of commands and note the one you use to go to CP/M ("C" on some systems).

When you're ready for down- or uploading, use the command to get to CP/M. Make note of any advice the system gives you as you enter the language. From here on out, all you'll see are prompts like "A0>".

A0 is the disk drive number. Some systems have many disks. To access another disk, type B: <RETURN> and wait. If you get a new prompt of "B0>", you made it to drive B. To find out what's on a disk, type DIR <RETURN>.

Let's say there's a file on the DIRectory called NIFTY.ATR that you want to download. Hit your <SELECT> button. You'll see a menu that says, "Capture, Dump, Menu, Send or Receive". To see what's on YOUR disk drives, hit an "M" and the directories will be printed out and you'll return to TERMINAL MODE.

To download NIFTY.ATR, do the following:

- hit <SELECT> for the menu.
- type "R" to Receive a file.
- When it asks for one, give it a filename (D1:NIFTY.BAS). This is the name you want to save it under, not necessarily the BBS's name for it.
- If there is no file currently named NIFTY.BAS, you will return to TERMINAL MODE. Great.
- Now type XMODEM S NIFTY.ATR and hit RETURN.

-- The remote system will tell you some stuff about the file length, time to transfer, etc. When it stops printing information,

-- Hit <START> and sit back. The screen should turn red and the program will display on your screen as it fills your memory. You should see something like:

GETTING SECTOR 1/1

every once in a while. The first number is the sector number. The second is the number of attempts to send that sector. After ten attempts, everyone gives up.

When the program is finished, your disk drive will kick in and save the program to the specified filename. If you only want hard copy, give it a filename of P: and use C: if you have a cassette.

To upload, hit <SELECT>, "S", D1:filename. Then when you're back in TERMINAL MODE, type XMODEM R filename <RETURN> and hit

<START>.

What you're actually doing here is running a CP/M program called XMODEM. You specify if XMODEM is to Send or Receive information, and give it a filename. The XMODEM program gets the file and sends it out (after an XMODEM S command) or pulls one in (after XMODEM R). The CHAT command in CP/M is also just a CP/M program.

That's basically it for XMODEM. One other feature of AMODEM is a Capture Buffer. It can be used "on the fly" to grab bits of info here and there, or it can be used on AMIS or ARMUDIC BBS's to download standard LISTed files.

To use it, hit <SELECT> and type "C" for Capture. Give it a filename, prefixed by D: or P: or C: and wait to go back to TERMINAL MODE. Now you can turn on the Capture buffer by hitting <OPTION>. The screen will go gray to remind you. Hitting <OPTION> again turns the capture off. You can toggle it on and off as many times as you want.

To save what's in the Capture Buffer, first stop capturing stuff, then hit <SELECT> and type "D" to Dump your buffer to the specified file. TELELINK I will never hold a candle to it!

If you've made it this far, congratulations!

If you need to, you can BREAK or SYSTEM RESET while AMODEM is running and still go back and type RUN to get it going again.

My own opinion is that AMODEM4 will get pretty popular with the hard-core BBS'ers and a few of the interested majority will also use it. Alas, TELELINK I & II will still be widely used. Whatever it takes, folks -- they all end up communicating.

My thanks to Ron Luks, Jim Steinbrecher, Steve Weintraub and Bob Perry for pulling me through this mess. Hope I've returned the favor. Here's some numbers to mess with:

RCP/M Penn.	215-836-5116
	(VERY good for Atari)
RCP/M Okla. City	405-848-9329
RCP/M Royal Oak	313-759-9569-R
RCP/M	504-273-3116
RCP/M	312-789-0499
	(drive B1)
RCP/M	215-398-3937
	(drive D9)

For the latest on AMODEM software and information, check GREKELCOM BBS of the Atari Computer Club of OKC, Inc. at 405-722-5056 (24 hours)

PICTODISC

32K RAM Diskette

\$34.95 (Note: Some features will require 40K)

PICTODISC is a disk based, full screen graphics editor which allows you to create highly detailed graphics displays for your ATARI Basic programs without long tedious calculations. You can edit and save the displays to disk then later recall them for further modifications. Over 20 commands allow you to create intricate displays with amazing ease. This utility is invaluable for creating Basic games, slide show presentations, VCR title and ending panels, and for educational uses. An instruction manual with extensive documentation and utility listings included.

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January Meeting Minutes

The January 18th meeting of M.A.C.E. was called to order by president Marshall Dubin at the Southfield Civic Center. Marshall announced that the club now has over eleven hundred members and is still growing fast. He also informed the membership that a second AMIS bulletin board is online. It is called M.A.C.E. West and is available 24 hours. The number is (313) 274-3940. At the next meeting membership will view the inside of an Atari via camera and will be viewed on our video system.

The major item on our agenda was a report by Sheldon Leemon and Arlan Levitan on the Consumer Electronics Show which had just taken place in Los Vegas. Please see the January newsletter for the writeup. The slides and commentary was enjoyed by all. We enjoyed the opportunity to see the new Atari 1200 still warm from production, new software offerings, and other computer products.

Marshall Dubin commented that the M.A.C.U.L. conference will be held at the Hyatt this year on March 3rd and 4th. His feeling was that M.A.C.E. ought to have a booth. Contact Mark Davids if you can help.

Craig Chamberlain demoed Pokey Player. Pokey Player III may be seen in the upcoming Softside, issue 38. Using the program he wrote it only took Craig twenty minutes to type in an entire sheet of music. Well done.

Chet Gonterman, Disk Librarian, noted that three new disks are available from the library this month. Highlights were graphics from the Lansing Group (disk V), Chicken (crossing the road dodging traffic), a moving message utility, and this month's winner Walter Neuschaefer, age 12, with Phantom Fighter.

Mike Clayton of Fluxion Enterprizes, demoed Picto Disk which featured graphic commands using single keystrokes and joystick. His program has create, retrieve, and directory features. One can use the program to draw in any mode three through eight. The joystick is used in drawing and keys to change color registers. The displays are full screen. The program has the capacity to display x and y coordinates no matter what your location on the screen. One can also enter basic routines. Thanks Mike.

Guy Hurt demoed Strip Poker featuring graphics by Doug McFarland. Essentially one plays poker with a female graphics display. The object is to strip the graphics display using poker acumen before you lose, lose...Well, don't you know how to play? We, the audience, weren't shown just how graphic the display could become. I guess if you're interested you'll just have to find out for yourself.

Miner 2049'er was previewed. Some members feel it will become the game of the year. It is very imaginative and very well done. We were impressed. It has ten levels of difficulty and is available in a cartridge at \$49.95.

Respectfully submitted,
William Black
Recording Secretary




```

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OK	405-722-5056	ARMU	GREKELCOM	?
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PA	215-432-9848	AMIS	STARCADE	L
PA	412-655-2652	ARMU	PACE	?
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SIG/ATARI ON COMPUERVE

Of special interest to Atari modem owners is the extensive Atari SIG (special interest group) in the computer club area of Compuerve, which may be reached by typing "G PCS-132" from the Compuerve main menu. SIG/ATARI features a large electronic message board, an on-line conference area where you can converse via keyboard with other Atari users all over the country and an area called ACCESS which contains public domain programs for the Atari.

HELP FOR COMPUERVE SIG/ATARI USERS

The Atari SIG (Special Interest Group) on Compuerve features an extensive message system that is somewhat complex but extremely powerful. Although there is an hourly charge for the service, it can be much less expensive than calling a lot of long distance bulletin boards and there can be dozens of people accessing the SIG at one time. You'll rarely get a busy signal from Compuerve.

Here's a selected summary of the most commonly used functions (you can also call them commands) available to you on the SIG. Hopefully you can read this ahead of time and keep your on-line learning costs to a minimum. The SIG can be reached by typing "G PCS-132" from the Compuerve main menu.

The SN Function

The SN Function types a list of the Sections to which you have been granted access by the Sysop. You can also check under the MI Function for a description of what Sections exist.

The MI Function

MI is the Member Information Function. The Sysop has prepared a message which the MI Function types. There the purpose of the SIG is stated, as well as any specific information about how to become a member or other information unique to this specific Special Interest Group.

The SS Function

The SS (Set Section) Function allows you to specify your "current section." The forms of this Function are:

SS # - set your current section to #. If the Sysop has not enabled you to access that section, you will be so informed. This Function will have two effects: retrievals and scans will be effective only for that section; if you leave a message, it will default to your current section. When Leaving a message, you may over-ride your current section by using the Save option as S #, where # is a section to which you have access.

SS ALL - sets your current section to 0 for Leaving messages, and allows the retrievals and scans to be effective for all sections to which you have access.

The QS Function

The Quick Scan Function provides a rapid display of message subjects and numbers. The Function may be entered as:

QS #

where # is the starting message number, or "NEW" for messages left since you were last on:

QS 20 or QS NEW

The default display format is to list a reply-less message number, its subject line, its section information (if any), and the number of replies (if any) on the next line. By including the option "ALL," you will see who left the top message and who left the various replies. The replies are indented to illustrate the messages to which they refer. You may include the option "ONLY" to restrict the display to the given message and its replies. Note that "ONLY" implies "ALL."

QS 125 ALL
QS 237 ONLY

QS will place an "=" as the first character on a line if the corresponding message is part of the current thread, but its parent message has been deleted. For example:

```
1
> 2
>> 3
> 10
= 5
=> 6
=>> 7
```

implies that the message for which # 5 is a reply has been deleted. The listing for # 5 will show the subject and both to and from names.

The R Function

The Retrieve has several forms. Most forms are for Retrieving messages. If you enter just R, you will be asked for a specific kind of retrieval, such a Forward (by

increasing message number) or Reverse (be decreasing message number). In addition, you may specify a starting message number by giving the Function as R #. Other forms of the R Function are:

RF - read forward; you will be asked for starting message #

RF # - read forward from message #

RI - read an individual message. You will be asked for message #.

RI # - read message #

RM - read Marked messages. Messages are marked when you enter the SIG if they are addressed to you, or by using the Scan Mark Function (see S Function).

RN - read new messages. This Function will retrieve messages starting from the highest message you read the last time you were on the SIG.

RR - read reverse; you will be asked for a starting message #

RR # - read reverse starting with message #

RS - read Selective; you will be asked which field to Select from, To, From, or Subject. You will be asked for a search string. You may enter this Function as R;S;All to select the Subject field containing the word "All."

RS # - read Selective starting with message #

When a message has been retrieved, you will be given a set of options. The options allow you to Continue to the next message, return to the Top Function prompt, REply to the message, and if the message is addressed to you, to Delete it. To skip message text and go to the options prompt, enter a control-P. Note that the Sysop may not have enabled non-members for retrieval of messages.

The remaining form of the R Function is actually a request to exit from the SIG and transfer to another SIG. It is entered as follows:

R(xxxx)

where xxxx is the name of the SIG to which you wish to go. You may obtain a list of available SIGs by using the H Function from the SIGS menu.

The RT Function

The RT (Retrieve Thread) Function retrieves messages and any subsequent replies. It may be entered as:

RT # or RT NEW

where # is a starting message number. You may also include the word "ONLY" to cause retrieval from the single thread of messages:

RT 2 ONLY

When retrieving messages with the RT Function, an option SK is available. SK will take you to the first message which is not part of the current sub-thread. SK ALL will take you entirely out of the current thread. For example, given the following messages:

```
100
> 110
> 120
> > 130
> > > 135
> > 132
> 129
150
```

If you have just read message 130, then SK will take you to message 129, while SK ALL will take you to number 150, because 150 is not part of the reply thread hanging from message 100.

The S Function

The S Functions are for Scanning message headers. They are similar to the R Functions, except that only the message headers are displayed. In addition, the SM forms will pause to allow you to mark the message for retrieval with the RM Function. Specific forms are:

S - you will be asked if you want to do a Forward or Reverse scan. You will also be asked for a starting message number.

S # - same as S, but start at message #

SF - scan forward

SF # - scan forward from message #

SR - scan reverse

SR # - scan reverse from message #

SM - scan and mark; you will be asked if Forward or Reverse scan desired

SM # - scan and mark from message #

SMF - scan and mark forward

SMF #- scan and mark forward from message #

SMR - scan and mark reverse

SMR #- scan and mark reverse from message #

Entering a control-P will abort header scanning and return you to the top Function: prompt. If you are a non-member, the S Function may not be operational; the Sysop controls this capability.

The SD Function

The SD Function allows the user to scan through the headers and optionally read the message. If the message is addressed to or by the user, it may also be deleted.

The L Function

The L Function is for Leaving messages to other users of this SIG. In order to Leave a message, you must either be a member of the SIG, or the Sysop must have enabled the SIG for non-member message Leaving. You will be asked to indicate to whom the message is to go. You may respond with a name or something more general, such as All. In addition, you may include a User ID. You will also be asked for a Subject of the message. The To and Subject fields may be 24 characters long.

Example:

L
To: John Smith 70130,3257
Subject: Meeting

At this point, you may enter your message. A blank line indicates that you have completed your message, and you will be prompted for an option. The option allows various editing functions, and the options to abort the message or Save it to disk. The information above could also have been entered as:

L;John Smith 70130,3257;Meeting

The message text may be about 2500 characters in length. The editor has a 96 line capacity while entering the text. Please check under the I Function for additional information about Leaving messages.

The D Function

The D Function allows you to delete a message, providing the message is addressed to you, either by your User ID or name. If you simply enter D, you will be asked for the message number to delete. If you enter D#, then the given message # will be deleted. The

message's header will be displayed, any you will be asked to confirm the request to delete.

The UST Function

The UST function types a list of those users who are currently logged into the same SIG as you are running. You will be shown the job number, the User ID, the terminal identifier, and program being run for each such user. The job number and terminal identifier may be used with the SENd function to send a short message to any job which is running the SIG proper.

The SEN Function

The SEN function will allow you to send a short message to any user who is currently logged into the same SIG as you are running. Use the UST function to see who is currently logged in. A program name of "SIGxxx" or "SGxxxx" indicates that the job may receive such a message. The format of this function is as follows:

SEN JOB # ...text....
or
SEN Tnnxxx ...text...

where # is a job number and Tnnxxx is a terminal identifier from UST. If the target job is not in the SIG program, you will get a "? Busy" message.

The CO Function

The CO Function will take you to the local Conference program, where you may participate in scheduled or impromptu conferences.

The V Function

V gets you to the User Interest Log. You will be asked for Option, which expects one of the following responses:

A - add an entry to the interest log; you will be prompted for state and interests. Your Name and User ID are supplied automatically

C - change your existing entry

D - delete your entry

S - search and display information from the Interest Log. You will be prompted for a search string. If you enter a 2 character search string, then it will check for state,

otherwise it will search the name and interest portions.

T - return to the Function: prompt
The U Function

The U Function lists the log of users who have accessed the SIG. The name, User ID, and date will be displayed. The order of display is from the most recent backward in time. A control-P will stop the output and return you to the top Function prompt.

The OP Function

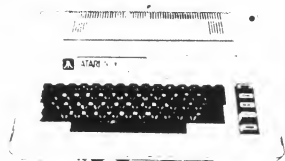
The OP Function allows you to set various parameters, such as the length of your terminal's display line. The OP Function will prompt you for Option: If you reply H, you will receive a list of available options and be informed of their current values. You may make the options permanent if you are a member of the sig by using the P option. The T option will return you to the Function prompt.

Well that's all for now. Next month we'll take a look at how to use the SIG/ACCESS sections to download programs to your computer. See You then!



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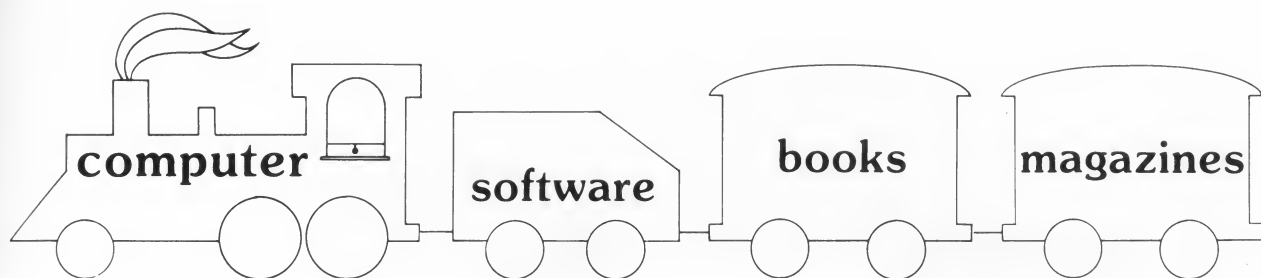
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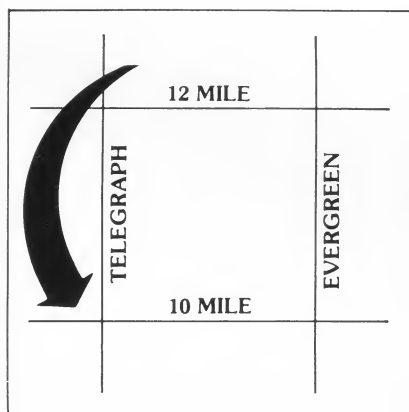
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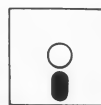
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